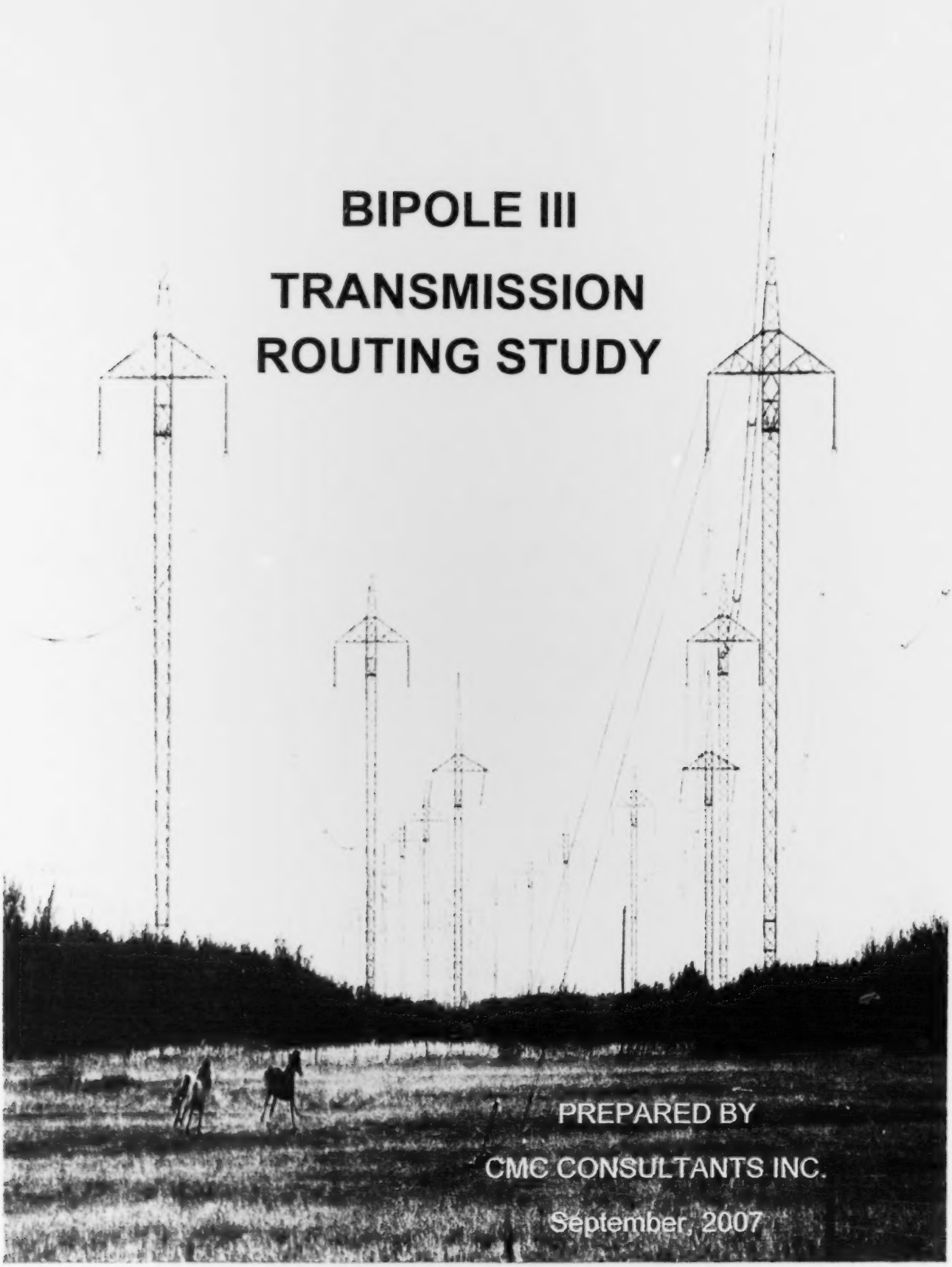
BIPOLE III

TRANSMISSION ROUTING STUDY



PREPARED BY

CMC CONSULTANTS INC.

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BIPOLE III TRANSMISSION ROUTING STUDY

REVIEW OF SOCIO-ECONOMIC AND ENVIRONMENTAL CONSIDERATIONS

AND

POTENTIAL ROLES OF ENVIRONMENTAL ORGANIZATIONS

CMC Consultants Inc.

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1. Introduction

There is an immediate need to increase the reliability of Manitoba Hydro's HVdc transmission system. This system transmits over 70% of the peak power requirements of the province along a single corridor through the Interlake. By North American standards this poses an unacceptable risk to the utility's customers. To improve the security of the HVdc system, Manitoba Hydro is proposing to build a new transmission line – the Bipole III Line.

The two primary routing alternatives for the Bipole III Line are the east side of Lake Winnipeg or west of Lake Winnipegosis and Lake Manitoba. From an increased security and economic perspective, the preferred route would be located on the east side of Lake Winnipeg. However, there are other considerations, which are addressed in this report, that make the choice of a preferred route difficult.

This report provides an overview of major issues related to the alternatives of routing the Bipole III Line on either the east or west side of the province. It is not intended to be a scaled down site selection and environmental impact study. The report considers issues on a highly generalized and comparative basis. It draws upon existing reports and narrowly based interviews, and was completed within a very short timeframe. There are no conclusions presented in this report. The report simply lays out the issues for Manitoba Hydro and the Province of Manitoba to consider.

Other than technical and economic considerations, there are few absolutes in the east vs. west debate. There are uncertainties associated with most aspects of the project, including:

- *Will the line impact a bid for a World Heritage Site?* The answer is possibly, but not necessarily.

- *Is there support from the First Nations on the east side of Lake Winnipeg?* Government meetings in 2004 concluded that there was none. However, recent statements made by First Nations to the media and east side planning documents suggest that there is now some support.

- *Will there be international opposition from environmental groups to an east side route even if there were First Nations agreement to proceed?* Very likely, but the tenor of the debate may change, as environmental groups could no longer point to a lack of First Nations support for the east side route as part of their opposition, and it could potentially place them in conflict with First Nations communities, with whom they have previously partnered.

- *Could continued or further conflict with individual First Nations impact power sales to Minnesota in the future?* Potentially yes.

- Manitoba has a business relationship with First Nations more or less from Conawapa to Snow Lake. West and south of Snow Lake the position of First Nations on the west side is unknown.

- Environmental opposition to a route on the west side of the province is likely much less than opposition to an east side route. However, it is still uncertain and unpredictable.

- Issues of ecological integrity and Protected Areas are better-studied and advanced on the east side. There is significantly less clarity and knowledge as well as profile regarding these issues on the west side.

- For woodland caribou, a west side routing would be a better option, but would not be without potential impacts.

- In built up areas there are preliminary indications from municipalities that they equate a transmission line with development and prosperity, and feel some responsibility to facilitate route location. However, there will be site-specific opposition from property owners. There will likely be strong opposition where the line circumnavigates the south and east sides of Winnipeg.

- The public has not understood the need for the Bipole III Line, nor the complexity of the trade-offs required for a routing decision. Recent licensing processes have become increasingly acrimonious and lengthy, which has further impeded communication and knowledgeable debate.

- Routing on the west side will be neither easy nor guaranteed.

The issues are rife with contradictions, such as:

- Hydro provides grid service to east side communities yet the Corporation is regarded with apprehension and distrust in some circles, even where the only involvement with Manitoba Hydro has provided benefits.

- In some communities, an all-weather road is acceptable on the east side (and even desirable) but a Bipole III Line is not.

The terms of reference provided for this assignment are attached as Appendix I.

2.0 Need for Bipole III Line

2.1 Present Situation

There is an immediate need to increase the security of Manitoba's HVdc transmission system that presently transmits 70% of the peak power requirements of the province over two ± 500kV HVdc transmission lines (Bipole I and Bipole II Lines). These two lines run along a single right of way (ROW) through the Interlake area from large generator stations on the Nelson River system in northern Manitoba to the major load centres in the southern part of the province.

The original transmission system design provided for the output of both Bipole I and Bipole II converters to be temporarily connected together in parallel on either of the two ± 500kV HVdc lines. In the event of the loss of one of the lines, this enabled most of the output of the northern converters to be transmitted to the south, albeit with increased line losses, on the remaining transmission line.

The southern Manitoba load centre, however, remains vulnerable to the simultaneous loss of both lines. This would leave southern Manitoba dependent on power from Winnipeg River generation, northern generation connected to the southern ac system, and available import from adjacent interties. In addition, the southern Manitoba electrical system is vulnerable to the loss of Dorsey Converter station through which all the HVdc transmitted from the north passes and where it is converted from direct current to alternating current for use on the southern distribution system. Dorsey station is also the Manitoba termination of the 500kVac interconnection with the United States.

The vulnerability of the existing system to a single destructive event was starkly demonstrated when 19 towers of the two existing HVdc lines on the same row were simultaneously toppled due to a wind shear downburst event on September 5, 1996. Fortunately, this did not cause widespread supply problems, as it occurred during the night at a time of low demand, with little requirement for heating or air conditioning. Had it occurred at a time of peak demand, it could have had a much more severe effect.

The severity of the effect of the complete loss of access to northern generation in the future, at or near peak load times, could lead to southern Manitoba experiencing a severe disruption to commercial and domestic activity, a strain on emergency services, and a risk to the health and safety of the population in general.

2.2 Options to Improve Security of the Present System.

Recently, several studies have been undertaken to assess alternative options to improve the security of the existing HVdc transmission system. All of the alternatives involve building an additional ± 500kV HVdc north/south transmission line (Bipole III Line). To minimize the risk of the loss of all three ±500kV HVdc lines (the two existing lines on the same ROW and the proposed additional Bipole III Line), it was recognized that the new line must be located on a ROW corridor remote from the existing lines.

The geography of Manitoba, includes some significantly large lakes that lead to a natural separation of possible transmission line routes into the following three north/south corridors:

- The "East" corridor, between Lake Winnipeg to the west and the Ontario border to the east.
- The "Interlake" corridor, between Lake Manitoba, Lake Winnipegosis and Cedar Lake to the west, and Lake Winnipeg to the east.
- The "Far West" corridor, between the Saskatchewan border to the west, and Lake Manitoba, Lake Winnipegosis and Cedar Lake to the east.

Studies of these corridors have been undertaken by Manitoba Hydro to determine the best technical and economic option for the location of the Bipole III Line.

2.2.1 The "East" Corridor

Routing the Bipole III Line along the East Corridor offers the most attractive technical solution for improvement to the security of the existing HVdc north/south transmission system. It is the shortest route, consequently minimizing exposure to line failure and making it the most economical to build.

The operation of the transmission system with the completed Bipole III Line along the eastern route, as well as providing the required additional system security, would enable the cost of building and operating the Bipole III Line to be recovered through the increase of export sales due to the savings through the decrease in line losses.

It is intended that the new Bipole III Line from Henday would terminate at the planned Riel Station, which is to be located close to the east side of the Red River Floodway, next to the existing Deacon Reservoir.

A paralleling line would connect the Riel Station to the Dorsey Converter station to enable the existing Bipole II converters at Dorsey and at Henday to be connected to the Bipole III Line. The two existing lines (Bipole I & Bipole II Lines) would then be connected in parallel to the Bipole I converters at Dorsey and at Radisson.

This configuration would provide for the needed emergency parallel connection of existing converters, enabling transmission of almost all of the output from existing converters in the event of the complete loss of transmission on any one of the corridors.

Consideration should also be given to advancing the installation of converters on the east route to provide for significant HVdc transmission in the event of a catastrophic loss of Dorsey station.

2.2.2 The "Interlake" Corridor

Presently, all of the HVdc power from northern generation is transmitted along the existing Bipole I and Bipole II Lines, which are sited on the same ROW along the Interlake corridor. To provide for a new ROW along this corridor while maintaining an adequate separation distance to prevent a single event affecting both ROWs has proved to be challenging.

Previous studies have determined that a separation distance between ROWs should be at least 40km to reduce the chance of a single event affecting all three lines, with a return period in excess of 800 years. The only option for a marginally suitable ROW would involve building artificial islands that allow island hopping of the transmission line across Cedar Lake.

The consensus is that an additional route through the Interlake would not provide adequate security for the total north/south HVdc transmission system, but it may be considered for future north/south transmission once the security issue is resolved.

2.2.3 The "West" Corridor

Routing the Bipole III Line along the West Corridor would provide the greatest separation between the existing lines and the proposed new line, but it would also be the longest, most expensive and least useful for emergency operation in the event of the loss of one of the transmission corridors.

Unfortunately, due its long length, its characteristics make it unsuitable to operate with either of the existing Bipole I or Bipole II converters, requiring it to have its own converters designed to operate with the longer line. The Bipole III Line and converters would not be able to operate connected in parallel with the existing Bipole I and Bipole II converters.

If the Bipole III Line (West) were lost, the existing Bipole I and Bipole II lines would be able to carry the full existing output from northern converters. However, if the Bipole I and II Lines (Interlake) were lost, the new Bipole III (West) would only be able to carry its rated load (about 50% of the available output). Together with imports from tielines, this may be sufficient to meet current peak load requirements for southern Manitoba but would require the advancement of a fourth HVdc Line and converters (Bipole IV) to meet load growth expectations.

2.3 Intermediate Future Development

Intermediate future system development calls for the building of further northern generation, which would require the provision of additional north/south transmission capacity.

If the Bipole III Line were built along the East Corridor, additional capacity could be provided by installing the Bipole III converters. (If Bipole III converters were installed

earlier, to provide security in the event of a catastrophic loss of Dorsey, no new converter capacity would be required.) This would provide for at least two-thirds of northern capacity to be transmitted south in the event of loss of either corridor.

If the Bipole III Line, together with converters, is built along the West Corridor, only about one-third of northern capacity could be transmitted to the south in the event of total loss of transmission on the Interlake corridor. If the transmission on the west were lost, the Interlake corridor would be able to carry about two-thirds of northern capacity.

2.4 Ultimate Development

In the event that full development of northern generation were to occur, it would approach 90% of the province's total generation capacity. This would require the construction of Bipole IV and Bipole V. For reliability purposes this would require a third corridor.

The ultimate requirement for Bipoles IV and V should not be construed as lessening the technical arguments for an east side location for Bipole III.

3.0 The Environmental Landscape of Alternative Routes

Either option for routing of the Bipole III Line will traverse both forested and rural areas of Manitoba. In very broad terms, a west side routing will traverse very roughly 580 km of forest from Henday to approximately The Pas, then approximately 760 km of rural landscape from The Pas to Riel. An eastern routing would traverse 800 km of forest from Henday to about the Winnipeg River and 85 km from there to Riel. The forested areas of the west route are much more intensively developed than on the east side, with roads, rail lines, geotechnical survey lines, and transmission lines, as well as forestry and mining operations. Both east and west side routings contain traditional land use areas and Treaty Land Entitlement areas of various First Nations, as well as Resource Management Areas. A larger, wide-spread population is affected by a west side routing, which also impacts more of the densely populated region in proximity to Winnipeg.

3.1 Differences among Potential Biophysical Impacts

Generally, different types and magnitudes of potential biophysical impacts could occur in the two landscapes of forested and rural areas. Potential impacts are associated with the construction phase and the presence of and maintenance of the transmission line and ROW, and will vary with line length and specific sites. In the boreal forest areas of northern Manitoba, key potential impacts are:

- Loss of ecological integrity
- Changes to ecologically sensitive and protected areas
- Declines in populations of rare, threatened and endangered wildlife, habitats and flora
- Disturbance to fur-bearing and other wildlife populations important to local communities, as well as alteration to habitat and changes in ease of human access
- Stream crossings that could alter water quality, aquatic habitats and fish species

In the more southern rural and rural residential areas, biophysical impacts tend to be more site-specific and could include some of the same issues, but often to a lesser degree. Ecological integrity is generally not of concern in this landscape, which tends to already have significant existing infrastructure, such as roads and other transmission lines.

Opinions on the significance of residual biophysical impacts after mitigation range from minimal to unacceptable impact. However, in the past decade, several significant transmission line projects have undergone provincial and federal environmental assessment and licensing. Consequently, Manitoba Hydro has developed extensive experience in mitigating transmission line biophysical impacts through:

- Extensive consultation processes to understand local concerns and gain information to assist in routing and mitigation
- Routing selection studies to avoid sensitive areas, and to reduce aesthetic and other impacts

- Environmental protection plans that are monitored by several regulatory agencies and include stream crossing guidelines and improved vegetation management practices

The following sections provide a high-level overview of an eastern vs. western routing for each of the key biophysical issues and has not benefited from information from local communities.

3.1.1 Ecological Integrity

Ecological integrity is a broad term often used by environmental groups, the scientific community and federal government, yet it is not necessarily consistently defined. To date, it has not figured significantly, if at all, in Manitoba Hydro reports; the focus is usually on habitat, sustainable development and cumulative impacts. The Clean Environment Commission recommended that periodic reports on ecological integrity (as well as enduring features, biodiversity and sustainability) be part of the Environmental Protection Plan for the Wuskwatim Project. Ecological integrity is sporadically but increasingly cited as the reason to "save the boreal forest," which is discussed in more detail below. A high level review of ecological integrity issues indicates that this is a complex subject. Neither the east nor the west side would be particularly favoured.

Ecological integrity seems to often mean "intactness," ensuring continuity of systems and processes, unfragmented and distant from human infrastructure. Global Forest Watch Canada defines intact forest as 50,000 ha (500 sq. km) and at least 10 km wide, while the World Resources Institute defines intact forest as areas of 200 sq. km or more that is mostly undivided by roads or other access routes, although they recognize that smaller tracts of forest may still contain high conservation values.

Clearly, the east side has greater existing ecological integrity than the west side. The west side has a 90 year history of mining, forestry, hydroelectric development and associated infrastructure of roads, rail lines and cut lines for geophysical exploration. The Flin Flon/ Snow Lake greenstone belt and the Thompson Nickel belt are two of the most prolific mining districts in the world. Forestry operations extend throughout most of the northern area to be traversed by a western corridor save for the Split Lake Resource Management Area. While the east side is also traversed to some extent by transmission lines (for example, north to Poplar River, east to Little Grand Rapids, and in the North-Central Project region) and by winter roads, with plans for all weather road development to Bloodvein and potentially further north it is of a different scope and intensity. The existence of extensive development in the west however, does not mean that biophysical impacts in that region would be less nor that it would necessarily be easier to find a route. Several other observations relevant to this debate include:

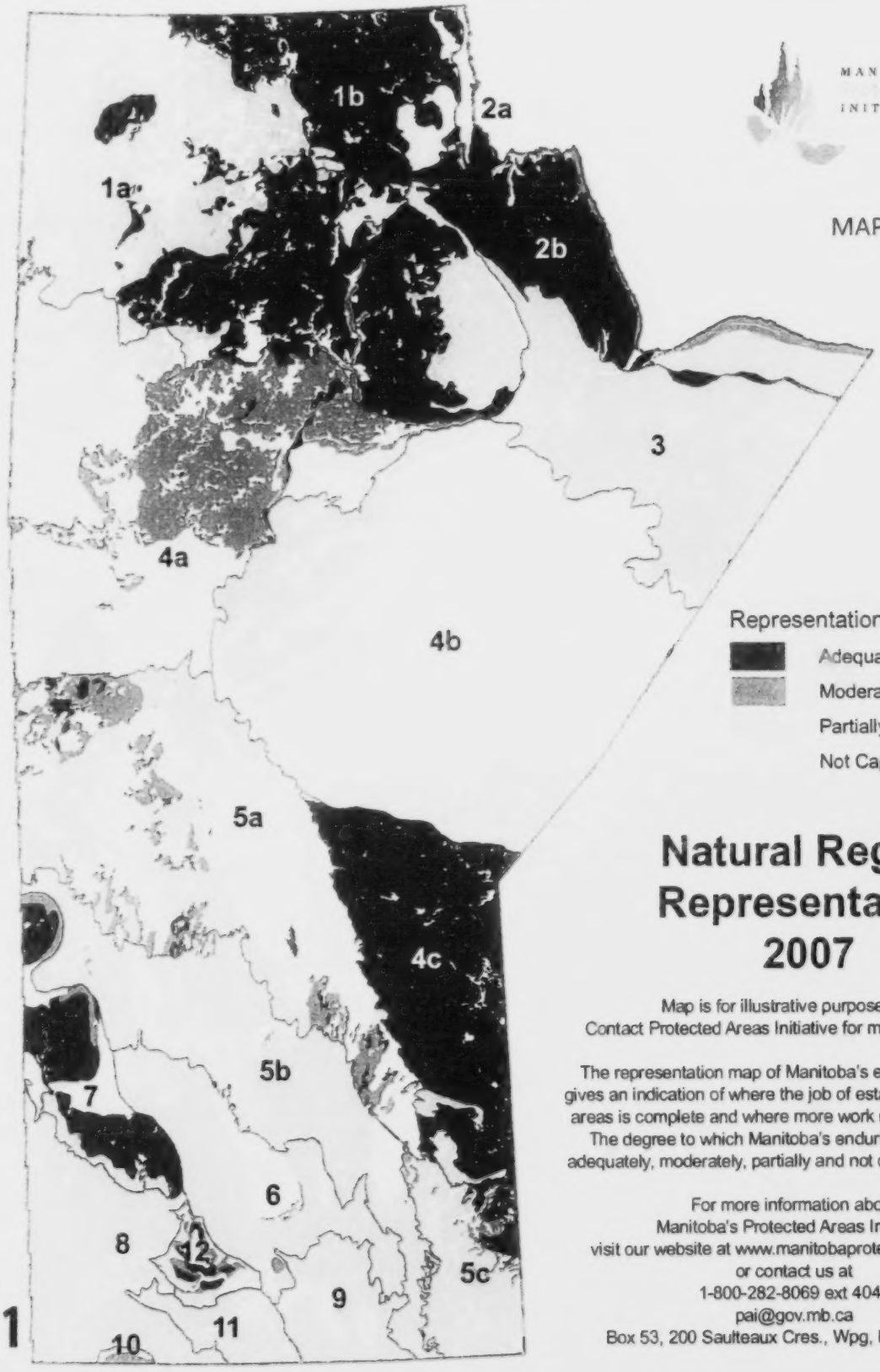
- The section of boreal forest between Poplar River and Oxford House, representing roughly 25% of an east side route, is largely free of linear infrastructure. It is also free from forestry resource allocation – a key criterion in preserving ecological integrity. This is the area where the greatest impact on ecological integrity would occur, particularly if the

Poplar/Nanowin Rivers Park Reserve is to be avoided through a more easterly routing. From Berens River south, a routing close to Lake Winnipeg and adjacent to the existing transmission line ROW would have minimal impacts on ecological integrity.

- The east side is virtually entirely in the boreal shield ecozone. Given that this forest does not recognize provincial boundaries, even with an east side Bipole III Line, tracts of intact boreal shield forest greater than the definitions above would remain in this region of Manitoba and Ontario.
- A west side routing will cross not only boreal shield but also boreal plains ecozones (from roughly Ponton to Red Deer Lake). This latter ecozone is considered to be highly impacted and at greater risk – according to Global Forest Watch, less than 15% remains in large, intact areas. This includes the same ecozone that was identified for protection as part of the proposed Manitoba Lowlands National Park. Although there are potential routing options through this ecozone that could parallel existing developments, an argument could be made that this region has greater urgency for protection of ecological integrity than the vaster boreal shield forest of the east side. However, this forest does not have the same profile and emotional appeal as the east side.
- A July 2007 map prepared by Manitoba's Protected Areas Initiative illustrates at a high level where the Province considers that adequate protection exists for the Natural Regions (or ecoregions) of Manitoba (Map 1). Both an east and a west side routing would pass through ecoregions that are not considered to have the enduring features adequately captured, including ecoregions where no protection yet exists. This is most significant for the east side, where the large Natural Region 4b Hayes River Upland would have to be traversed, but a west side routing may pass through several natural regions that do not have enduring features captured. However, the map also indicates that an east side routing would pass through a significant area that is considered adequately represented – Natural Region 4c Lac Seul Upland.
- A more detailed discussion of the potential UNESCO World Heritage Site is provided below, but some references suggest that if 50% or more of a region's land is given protected status, then integrity is protected. As noted above, the Province already considers this natural region to be adequately represented in terms of enduring features. This means that, provided that the Bipole III Line does not alter the potential UNESCO status, a routing scenario for the east side could be developed if it were coupled with real, and perhaps additional, protected status.

3.1.2 Ecologically Sensitive Areas and Protected Areas

Manitoba's Protected Areas Initiative is in the process of assembling a network of lands that protect representative samples of the province's 18 natural regions. This has been identified as a priority for the provincial government. Candidate sites move through a hierarchy of designation, beginning with Area of Special Interest (ASI) to Protected Area



MANITOBA'S INITIATIVE

MAP 1

Representation Legend

- Adequately Captured
- Moderately Captured
- Partially Captured
- Not Captured

Natural Region Representation 2007

Map is for illustrative purpose only.
Contact Protected Areas Initiative for more information.

The representation map of Manitoba's enduring features gives an indication of where the job of establishing protected areas is complete and where more work needs to be done. The degree to which Manitoba's enduring features are adequately, moderately, partially and not captured is shown.

For more information about
Manitoba's Protected Areas Initiative
visit our website at www.manitobaprotectedareas.com
or contact us at
1-800-282-8069 ext 4040
pai@gov.mb.ca
Box 53, 200 Saulteaux Cres., Wpg, MB, R3J 3W3

July 2007

Manitoba

Proposal to Park Reserve to Protected Area. Once established, a Protected Area would likely not be able to be traversed by a new transmission line.

Existing and potential Protected Areas exist along both the east and the west sides of the province, rendering this topic largely neutral in terms of deciding on an east vs. a west preference. Potential impacts on ecologically sensitive areas and protected areas can largely be avoided through routing selection that avoids them – recognizing that avoidance adds to costs through longer line length and the need for more expensive angle towers. Other factors to consider:

- On the east side, the existing or potential Protected Areas are large, but generally better identified and further along in the designation process. There are several ASIs between Poplar/Nanowin Rivers Park Reserve and Henday area, but they are large blocks and routing may be possible through them. In other words, there is more knowledge and certainty in dealing appropriately with Protected Areas on the east side.

- There is less knowledge and certainty regarding potential and existing Protected Areas on the west side. The greatest challenge will be finding a route through the area known as the Saskatchewan River Forest Reserve and south, roughly from Cormorant and down to Swan River. Although lacking the profile of the east side, sites such as the Saskatchewan River Delta may be important. Large swaths of this area are covered by ASIs. In most cases, ASI boundaries are flexible and can be changed to respond to new information. However, single or restricted occurrence enduring features have limited flexibility for boundary changes. Significantly, during the Wuskwatim Transmission Line Project, essentially only one alternative route could be identified for evaluation in the section from Herblet Lake to Rall's Island Station near The Pas. The timing to gather appropriate information and work through consultative processes on potential protected areas on the west side would be significant.

- An east side routing will cross two Canadian Heritage Rivers, the Hayes and the Bloodvein, both of which are already crossed by either 66 kV or 138 kV transmission lines. A west side routing will cross one Canadian Heritage River, the Red, which is presently crossed by a 500 kVac line north of Winnipeg. Although CHRS status does not preclude additional transmission lines, there will be an aesthetic impact on the recreational experience and an impact on the values for which the rivers were nominated, particularly for the two northern rivers.

3.1.3 Rare, Threatened and Endangered Wildlife, Habitats and Flora

In the absence of routing studies for either the east or west side, it is impossible to know the extent and magnitude of rare, threatened and endangered wildlife, habitat and flora. Detailed route selection typically identifies such sites for avoidance. The major exception

is woodland caribou, and the following section compares the two potential routings in terms of potential impact on this iconic species.

Woodland Caribou

Of all the wildlife in the boreal forest the woodland caribou is often singled out special attention. Canadian coins feature the queen on one side and symbols of our identity on the other. On the quarter it's a caribou. A prominent symbol of wilderness values.

All boreal populations of woodland caribou are listed as Threatened both provincially and nationally. There is a provincial conservation and recovery strategy in place in Manitoba and a draft national recovery strategy nearing completion federally. Both strategies recognize the primary objectives in caribou conservation as retaining existing populations and maintaining the integrity of their ranges. The common history of woodland caribou decline is for individual populations to have their ranges disturbed by human activity, which (i) isolates populations, (ii) removes habitat, (iii) upsets the natural balance between caribou and other species, and (iv) provides opportunity for increased kill by human hunters. Caribou commonly occur in small herds (tens to perhaps a few hundred animals) and have a low reproductive rate compared to moose and white-tailed deer. Consequently, caribou populations lack the ability to recover from even a few additional deaths each year. Disturbed populations typically dwindle and then disappear. The disappearance can take as long as a few decades, but the end is predictable. Over the past century, numerous boreal woodland caribou populations have disappeared across Canada and there is no record of any population ever re-establishing itself after it has become locally extinct.

There are several points of general consensus in the wildlife research and management communities regarding boreal woodland caribou:

(1) The critical aspects of habitat are that it occurs in a very large range (hundreds or thousands of square kilometres), and that it be mature coniferous forest (including bogs and fens if present);
(2) Caribou populations will decline if they are sharing their range with moose or white-tailed deer and their parasites or predators;
(3) Caribou populations will decline with even small increases in the number of individuals killed by humans; and
(4) The negative effects of range disturbance may not become evident for 20 years or more owing to a time lag before changes in wildlife and human uses of a range occur.

Potential impacts to caribou from transmission lines may occur from the noise and activity during transmission line construction, which could displace any caribou in its vicinity, likely by several kilometres. Effects of construction activities are unlikely to yield long-term consequences to caribou populations if the disturbance is of short duration and it is planned to avoid key seasons.

In isolation, the direct effects of a transmission line ROW, once operating, are not likely to disrupt an established population and should not put caribou populations at risk – it is

the access facilitated by a transmission line ROW that leads to greater risk. Specifically, human access for hunting and access by other forms of wildlife, which presents risk of disease transmission from moose and white-tailed deer as well as changes in predator populations. Accordingly, the ability to isolate a transmission line ROW from other activities will dictate its impact upon caribou.

In comparing the east side to the west side from a transmission line planning point of view, all caribou ranges encountered are High Risk, regardless of an eastern or western routing.

East Side: Any transmission line constructed on the east side of Lake Winnipeg would intersect the range of the Atikaki-Berens population, one of three populations already in the High Risk category. The Manitoba Conservation and Recovery Strategy shows a blank space north of the Atikaki-Berens range. It is known that this area contains one or more caribou populations but there is not sufficient information to determine the extent of their range(s). It would be prudent to consider the area between the Atikaki-Berens range and Oxford House as being occupied by caribou. Lake Winnipeg is a natural barrier to woodland caribou populations. Should a transmission line be constructed on the east side of Lake Winnipeg, placing the corridor close to the lake would, at worst, remove the westernmost margin of population ranges and cause minimal loss of caribou range.

West side: The western corridor options provide opportunities to follow existing transmission lines, rail lines or highways for most of its length. The Wabowden population's range is already bisected by both roads and rail lines. From the Wabowden area, a route north of Moose Lake then south past the Pas and Swan River appears able to avoid introducing any new linear features into caribou ranges.

Eastern vs. western routing: Considering the points of consensus on boreal woodland caribou noted above and the knowledge of woodland caribou in Manitoba, the west side presents the best options for woodland caribou in Manitoba. It would not need to fragment additional caribou ranges and would leave a large contiguous block of caribou habitat on the east side of Lake Winnipeg. Widening an existing transmission line corridor would reduce impacts relative to creating a new corridor. As noted above, the direct effects of a transmission line are much less than the effects related to associated access. Parallel transmission lines in the same corridor would provide a minimal increase in access compared with the establishment of a transmission line in a new area. Potential mitigation measures could be applied regardless of the selected routing, although their effectiveness are speculative. Route selection is the most important consideration; within any selected route, mitigation measures should focus on access along the ROW. It is also important to note that though the ranges and dynamics of all woodland caribou populations in Manitoba are not known and might benefit from study, funding additional research will not provide new information for many years and is unlikely to be able to inform the planning process.

3.1.4 Disturbance to Fur-bearing and Other Wildlife Populations

While important, especially for Aboriginal communities, at this high level of comparison, no significant difference between an eastern vs. western routing is identifiable, with the exception that an east side routing passes through a greater length of boreal forest, while the west side routing passes through more ecozones and potentially a greater diversity of wildlife populations.

3.1.5 Aquatic Habitats and Stream Crossings

While important, at this high level of comparison, no significant difference between an eastern vs. western routing is identifiable. Both routing options would cross major rivers and a myriad of smaller rivers and streams, as well as a variety of wetlands. The longer western route might cross more water bodies, but this is speculation. Existing mitigation measures would reduce potential impacts regardless of the routing choice.

3.1.6 Impacts on Carbon Stocks

The Wuskwatim Transmission Line Project includes an assessment of potential impacts on carbon stocks. Global warming is of increasing concern and attention. Right now it is difficult to make any meaningful comparison for an east vs. west Bipole III Line. Very generally, it appears that potential release of carbon would be greatest in forested areas, meaning that the east side may have a higher impact without mitigation or offsets. This issue cannot be used in making routing decisions at present due to insufficient information, but Manitoba Hydro will be increasingly cognizant of this topic.

3.2 Differences among Potential Socio-economic Impacts

In general, as with biophysical impacts, routing selection processes plus environmental assessment and mitigation measures result in few residual socio-economic impacts with new transmission lines. However, the mitigation required may be difficult, expensive and sometimes extremely disruptive and upsetting for the individuals involved. Public perception, especially near Winnipeg and other built-up areas, will view the construction and presence of the Bipole III Line negatively (see Section 4.1).

The west side option is significantly longer through rural and built-up areas and will require more avoidance routing and mitigation to minimize impacts on:

- Farming operations
- Visual impacts
- Noise
- Heritage resources
- Health concerns, especially linked to EMF (regardless of current scientific literature or Manitoba Hydro's position)
- Negative impact on property values

It will be virtually impossible to avoid homes in routing the Bipole III Line. The risk for the associated significant dislocation is greater with the longer western option, particularly in the vicinity of Winnipeg.

Socio-economic impacts will require avoidance routing and mitigation in the northern sections for either an eastern or western potential routing including: communities, Registered Trap Lines, access by non-members into traditional land use or Resource Management Areas of First Nations, etc. Neither routing would be more or less challenging in this regard. However, the west side has a long history of mining, forestry, hydroelectric development, settlements and related infrastructures that are not found in the core parts of the east side. While at times this may provide opportunity to parallel existing infrastructure and reduce impacts, intense human development conversely presents more obstacles.

4.0 Considerations Associated with Different Routing Options

This section raises a number of considerations that are linked to biophysical and socio-economic impacts, but deal with specific issues. For example, one consideration is the nature of opposition in built-up areas and why a western route might be perceived as benign while an eastern route is troubling. And while the issues raised here are eclectic, they are useful considerations associated with different route options and important from a general planning perspective. One notable feature in all of these topics is the degree of uncertainty, as each involves a degree of speculation and ultimately requires substantial judgment.

4.1 Opposition in Built-Up Areas

A west side routing would pass through significantly greater rural areas and pass in proximity to more built-up areas, particularly near Winnipeg.

Limited discussion with elected municipal officials in rural municipalities and planning districts suggest a surprising absence of strong views that would preclude a new HVdc line in built-up areas. Opinions have been expressed to the effect that:

- The municipal relationship with Manitoba Hydro has always been positive. There will be no outright opposition to a line by municipal governments. The municipal position might be cautious but certainly open to discussion and a willingness to find solutions.
- There were offers from Planning Boards to facilitate discussion and meetings
- There is a notion that transmission lines are necessary for the public good. Civic duty requires cooperation in building this infrastructure.
- Some people associate transmission lines with economic development and prosperity and see them in a positive light
- Financial incentives to landowners have created a very positive relationship with the Corporation. Municipal concerns would relate to use of municipal lands and impacts to future development opportunities.

There will be site-specific opposition to new transmission in built-up areas of the province. It is inconceivable that new transmission could be built without coming close to some rural or ex-urban residences. Based on Hydro's experience to date, opposition from individuals affected by the line can be expected to be ardent, vociferous and litigious. Depending on the magnitude of opposition, elected officials may become less accepting of the HVdc line. In addition to the cost of acquiring easements and rights-of-way, Hydro should expect to be faced with expropriations, buyouts, and settlements for damage to property values.

To terminate at Riel, a west side routing will need to circumnavigate Winnipeg to a significantly greater degree than an east side routing. Ex-urban development has increased the extent and density of houses and developments outside the city's perimeter since the previous Bipoles were built and since the 500 kv line was built in and out of Riel. Opposition will be more vocal and organized in these areas, and mitigation

measures such as financial incentives to landowners will be less appealing and successful than in rural farmland. No one will want the HVdc line in their back yard.

4.2 The Evolving Nature of Resources Management Areas

In northern Manitoba, the provincial government is party to the development of Resource Management Areas (RMA) and the recognition of Traditional Use Areas. RMAs exist or are in development on both the east and west sides of the province. These initiatives are in collaboration with First Nations and recognize that Aboriginal rights extend beyond reserve boundaries into unoccupied Crown lands. They have proven to be an effective forum to facilitate discussion and to coordinate planning. The whole notion of co-management has been evolving, in part due to Supreme Court rulings, and in part simply due to an interest in better community relations.

However, the evolution of Traditional Areas and Resource Management Areas is beginning to show there are limits at which they can become counterproductive. While a Resource Management Area should provide a forum for consultation and improved decision-making, if the RMA begins to take on attributes of real property, it can become an impediment to development and cause conflict among First Nations by allowing one party to effectively veto projects of interest to the majority of Aboriginal people in any one region. Rather than reducing conflict, these arrangements can create tensions whereby the government states that the relationship is one of consultation but in effect grants a right of consent to each First Nation in a region prior to any resource allocation.

These areas are a direct provincial responsibility, however, Manitoba Hydro is often drawn into these discussions because of First Nation concerns about mitigating or offsetting impacts of transmission lines. First Nations on both the east and west side have clearly indicated a desire to be consulted regarding future hydro-electric development, including transmission lines, and the RMA agreements will be a factor in these discussions.

4.3 Current Partnerships

Manitoba Hydro has two major business partnerships with First Nations related to the development of new generation:

- There is an agreement with Nisichawayasihk Cree Nation (NCN) to jointly develop the Wuskwatim Generating Station. This is a 200 MW plant estimated to cost some 1 billion dollars. Associated transmission will see a new corridor from Thompson to the Wuskwatim site and to The Pas.
- In October 2000, Manitoba Hydro and Tataskweyak Cree First Nation (TCN) entered into an agreement in principle to explore the business opportunity to develop the Keeyask Generating Station. This is a 620 MW site that will cost upwards of 3 billion dollars. While transmission has not been discussed, TCN has understood that it will have to facilitate a transmission corridor as well as agreement to an infringement of Aboriginal rights at the site of the station. However, discussions about a Bipole III Line to date has been in the context of a

EAST SIDE LAKE WINNIPEG PLANNING AREA

MAP 2

First Nations & Northern Communities

First Nation Community Census:
First Nations Communtiy Profiles 2001-02)

Northern Community Census:
Northern Community Profiles 1996 Census

north/south orientation away from the TCN Resource Management Area. The notion of an east/west line would be something new and would potentially traverse a significantly longer section of the RMA.

The TCN Resource Management Area covers as much as 7% of the province. It stretches from the proposed Conawapa converter site to the LGD of Mystery Lake (Thompson) and is contiguous with the NCN RMA.

These relationships suggest there is a reasonable opportunity to achieve agreement with both TCN and NCN on a west side transmission corridor. This report has not involved any technical studies but a map review of the integrated transmission system at least suggests the opportunity to widen existing and proposed transmission corridors through these Resource Management Areas to The Pas.

4.4 The East Side "Address"

Regardless of potential impacts and opposition to a west side routing, the east side has gained an upscale "address". It has garnered international attention and has become symbolic of efforts to "save the boreal forest". The east side has been formally recognized by Parks Canada as a place of "***outstanding universal value***" when it added this area to Canada's Tentative List of World Heritage Sites. Details regarding this initiative and the profile of the east side among environmental groups are discussed in later sections.

A Manitoba news release of February 2007 notes "The project has already ***generated considerable international interest*** since the site would fill an identified gap in the World Heritage Site system of protected areas, and because it proposes an innovative approach to land management that combines natural and cultural features. It has exceptional ecological values with extensive undisturbed forests, lakes and wetlands that reflect unique geological processes and represent critical habitat for several threatened or endangered species including woodland caribou, bald eagles and wolverines. The site also represents an outstanding example of traditional Aboriginal life based on a close and enduring relationship to the land"

It is notable that similar claims are not made for the west side of the province, even though there are ecological units on the west route that are arguably of equal value to anything to be found on the east.

This notion of an east side address is important in understanding why an east side route would likely attract fire while a west side route may move through the environmental licensing process somewhat easier.

4.5 The East Side Planning Initiative/ WNO

The East Side Planning Initiative or Wabanong Nakaygum Okimawin (WNO) virtually encompasses the entire area required for an east side Bipole III corridor save for the extreme northern end (Map 2). Launched in 2000, WNO has a mandate to develop

"traditional land-use plans and a broad area plan for the east side." There are 16 First Nations in the planning area with Norway House/Gods Lake and the Island Lake communities on the northern boundary and Sagkeeng on the south.

The EPI/WNO has gone through several evolutions. Most recently, on April 3, 2007, the Province of Manitoba and the Signatory First Nations signed the Wabanong Nakaygum Okimawin (WNO) Council of Chiefs Accord. The Accord "confirms the government to government relationship between WNO First Nation Governments and the Government of Manitoba ...reinforcing the most comprehensive traditional land use planning in this country."

Clause 3.10 states that until the "First Nations land use plans are developed and adopted or resource management agreements are in place, the Province, before deciding on a proposal for an allocation or disposition of Manitoba Crown land or resources for an activity in the Planning area, will consult meaningfully with any First Nation Government whose aboriginal or treaty rights may be adversely affected by the proposal." Late drafts of the Accord went beyond consultation to grant the right of consent over resources dispositions on the east side. References to consent have all been removed from the final document.

4.6 WNO and the Transmission Line

The "Promises to Keep..."[1] document states: "The vision of the East Side Planning Initiative is based on the fundamental principal that the land is and must continue to be protected and. Further, it is a vision which:

- Equates the importance of human development with the requirement for a wise and sustainable stewardship of the land."

The document goes on to say that this vision includes opportunities for economic development of local resources. It is intended to balance economic, social and environmental issues. It is not prescriptive of excluding any type of development and is not prescriptive of excluding a transmission line.

There is a disconnect between the Province's and WNO's position on the Bipole III Line. The "Promises to Keep..." document notes that in its own community consultations the "reaction to the corporation and the proposed transmission line corridor on the east side of Lake Winnipeg was either uniformly negative, or contained significant overtones of mistrust and suspicion" (section 6.6). However, the report did not recommend that the line not be built. The report actually included 10 recommendations providing guidance on major issues that would have to be dealt with through negotiation, consultation and planning. Further, there is a perception that some east side communities are willing to discuss an east side route in the context of economic opportunities. A recent example was found in the printed media ("East side is the right side", Letter to the Editor, *Winnipeg Free Press*, July 28, 2007).

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[1] Promises to keep - towards a Broad Area Plan for the East Side of Lake Winnipeg, East side Planning Initiative, September 2004

This issue is complicated by statements from the provincial government ruling out an east side location, in part, because of opposition from First Nations. In a ministerial tour of east side communities in 2004, First Nation communities voiced consistent and uniform opposition to an east side route. In early 2007, statements were made by government ministers to the effect that an east side location was being protected from Hydro development.

WNO may be a potential forum to continue discussion of an east side location. As an organization with a mandate to develop a plan for the east side, the Province would be looking to the WNO for advice. However, while the Secretariat is managing the planning process through the WNO Council of Chiefs structure, the WNO does not have a mandate to make significant decisions on behalf of participating First Nations.

There is uncertainty and risk regarding support or opposition by First Nations for potential routings on either side, although the debate has been more specific and longer term on the east side. It is clear that there is some First Nation support for an east side route but that the support is not unanimous. Also, the support that exists is conditional on financial incentives/opportunities that are beyond what Hydro has proposed for its transmission development fund. For a west side routing, there is opportunity from existing partnerships with NCN and TCN, and recent transmission lines have been successfully routed, but this does not guarantee that opposition will not occur and nor be significant and demand the same financial incentives/opportunities. First Nations have not been directly contacted for this report.

4.7 The Government Role in Planning

Planning for a new transmission line includes elements that are beyond Manitoba Hydro's mandate. Amongst those interviewed there is a common opinion that the Province should take a lead role in the initial planning and decision-making. The rationale for this includes:

- The expense involved. The cost for the Bipole III Line down either corridor will run into the hundreds of millions of dollars, with a west side routing costing significantly more. The choice of east vs. west will affect the provincial debt and the ability of Manitoba Hydro to pay a future dividend.
- The reputation of the Crown is at stake.
- The Crown has a duty to consult. Over time, Supreme Court decisions have refined and provided guidance about the Crown's duty to consult with respect to Aboriginal and treaty rights. The Crown has an obligation to respect and honour the Aboriginal and treaty rights of communities and communities have a right to be appropriately consulted and accommodated if activities adversely affect their rights. Some aspects of this duty to consult may be delegated to Manitoba Hydro but ultimately the Crown has the responsibility to meet this obligation.

There is a wide range of interests that are also the mandate of the Province of Manitoba. These include:

- The impact of land-use decisions and shared decision making on non-First Nation communities and industry, and the potential conflicts with other public policy objectives;
- Public well-being in terms of health and safety linked to reliability;
- Commitment to address climate change and protect and improve the environment;
- Potentially competing values; and
- Community and economic development responsibilities.

5.0 Impact on Other Initiatives in the Area

There is forestry and mineral exploration on the east side of Lake Winnipeg. There are also plans to start extending all weather roads into the region. None of these initiatives would be impacted by or benefit from an east side transmission corridor.

The sole issue that has received attention in this respect is the potential for a large part of the east side to be inscribed as an UNESCO World Heritage Site. Most of this section deals with UNESCO issues.

5.1 UNESCO World Heritage Site

UNESCO (The United Nations Educational, Scientific and Cultural Organization) through its **World Heritage Committee** has inscribed 851 properties worldwide to its **World Heritage List**. These properties are recognized by the World Heritage Committee as having **Outstanding Universal Value.** The properties may be listed as cultural, natural or mixed locations. Inscription of sites on the World Heritage List serves as a catalyst for heritage preservation and provides access to the World Heritage Fund. Sites inscribed on the World Heritage List benefit from the development and implementation of a comprehensive management plan that sets out preservation measures and monitoring mechanisms. Inscription of a site can bring an increase in tourist activities at the site. This can bring funding to the site and local economy provided that the tourism activities are well planned and within sustainable tourism principles.

Just as projects may be inscribed, they may also be removed from the World Heritage List if they do not maintain their cultural and/or natural values. A number of sites are listed as being in danger of removal. These include a site in China where UNESCO has serious concern over a controversial proposal to build dams and water power infrastructure near the site. China has been asked to provide a report within the next year on the environmental consequences of the project.

Parks Canada is the lead federal agency for the implementation of the World Heritage Convention in Canada. Sites considered for nomination by a State Party are placed on a **Tentative List**. Canada last updated its Tentative List in 2005. At that time, over 150 sites were identified as potential candidates with 10 being placed on the list. One of these was a large site located in the boreal forest of eastern Manitoba and northwestern Ontario known as Pimachiowin Aki, which was advanced as a combined natural and cultural site.

The proponents of Pimachiowin Aki are:

- Pikangikum First Nation (Ontario)
- Poplar River First Nation
- Pauingassi First Nation
- Little Grand Rapids
- Governments of Manitoba and Ontario

The east side generally and Pimachiowin Aki specifically has received significant provincial, national and international attention and support.

Nomination of a site requires a wide range of management plans and documents cataloguing the "cultural and natural" heritage values. Pimachiowin Aki will take four to six years before the nomination is ready to be put forward to UNESCO for consideration. The Bipole III Line routing and assessment studies could conceivably be occurring in advance of or concurrent with this process, which may generate greater opposition unless Manitoba Hydro is seen as actively and meaningfully supporting the UNESCO process, as well as working on a routing that avoids the study area completely.

The precise boundaries of the site are not known and will not be known for some time. But while the boundaries of the site are not well defined, Parks Canada believes there is a high potential for conflict with a transmission line. Furthermore, First Nations territories extend all the way to Lake Winnipeg, meaning there is no place where the line can be built without impacting to some degree the cultural values of the Aboriginal population.

The impact of the Bipole III Line on any future UNESCO application is uncertain. In large part it depends on the level of cooperation between Manitoba Hydro and all of the UNESCO proponents. There are numerous World Heritage Sites that have fully developed modern infrastructure systems. Most of these were in place before inscription. A transmission line within the site would certainly weaken the case for inscription based on "natural values".

The worst case scenario would be constructing the Bipole III Line in the face of First Nation opposition. Under the UNESCO convention, the proponents and especially the State Party are obligated to protect an area of **"outstanding universal value"**. This includes protection for both natural and cultural values. Building a line within the site in the face of opposition would be taken as a lack of commitment to UNESCO values and poor stewardship. It is not clear how the UNESCO process would deal with conflicting First Nation support and opposition to a transmission line.

The best case scenario would:

- Achieve full cooperation with First Nations and other proponents
- Develop agreements between Manitoba Hydro and First Nations that go beyond a simple financial relationship to demonstrate mutual respect, recognizes stewardship for the land and honours First Nations cultural ties to the land. This could be shown through meaningful support of Pimachiowin Aki.
- Clarify and align the Province's and Manitoba Hydro's positions and priorities. The Bipole III Line project will only move forward if the two entities share a common vision and objectives on both transmission and UNESCO issues.

If First Nations are on-side, the Bipole III Line routing studies could commence and begin to consider the broad and site-specific biophysical and socio-economic impacts. If all or some First Nations oppose the line, it could become a serious complication involving the Province's honour with respect to previous commitments, its reputation and its commitment to "stewardship". Regardless, it will be a long and difficult process.

5.2 Roads and Other Initiatives

The Province has committed to a road up to Bloodvein First Nation by rebuilding the Rice River Road and bridging the Bloodvein River. This is a five-year program with an annual commitment of $8 million and a total project cost of $41 million. This has been discussed as the first step in establishing all-weather road access further north into Berens River.

Manitoba Infrastructure and Transportation is about to commission a "System Planning Study" that would consider the options for more northern communities. This will likely involve an east/west route from the Island Lake communities to Norway House.

First Nation support for roads but opposition to the Bipole III Line is not necessarily inconsistent when viewed from a community context. While the roads have been identified by the communities as something they need and want, the need for the Bipole III Line is external and potentially of no community benefit. In Aboriginal communities, Manitoba Hydro developments come with an image of environmental degradation and an atmosphere of distrust.

The proposed roads will avoid the proposed UNESCO site. Persons involved with the UNESCO process seem willing to take the application forward with notions of a road but are apprehensive about the Bipole III Line unless there is clear First Nation acceptance. For those who see transmission lines as benign, this position might be difficult to accept. It should be noted, however, that the current road proposal for the northern part of the region does not involve a north/south link. That alignment apparently, at least in part, reflects a concern to maintain the wilderness values of the region. This road would traverse the area (Natural Region 4b Hayes River Upland) with the greatest need and opportunity to preserve ecological integrity on the east side.

5.3 Manitoba Model Forest

The east side is home to Manitoba's only Model Forest, a non-profit organization dedicated to finding new and innovative approaches to sustainable forestry practices in the boreal forest. An east side routing for the Bipole III Line would traverse the Manitoba Model Forest research area but would not affect their designation as a model forest.

5.4 Minnesota Legislation

During the 2007 Minnesota Legislative session an Omnibus and Energy Policy Bill was passed requesting Manitoba Hydro to provide information annually with regard to First Nations that are a signatory to the Northern Flood Agreement.

The Bill reads as follows:

> Sec. 9. Minnesota Statutes 2006, section 216C.052, is amended by adding a subdivision to read:
>
> Subd. 8a. **Manitoba Hydro Information**. By January 1. 2008 and each year thereafter, the task force shall request the Manitoba Hydro-Electric Board to

provide the following information for each community that is a signatory to the Northern Flood Agreement, including South Indian Lake:

(1) median household income and number of residents employed full-time and part-time
(2) the number of outstanding claims filed against Manitoba Hydro by individuals and communities, and the number of claims settled by Manitoba Hydro; and
(3) the amount of shoreline damaged by flooding and erosion, and the amount of shoreline restored and cleaned.

For purposes of this subdivision, "Northern Flood agreement" means the agreement entered into by the Northern flood Committee, Incorporated, the Manitoba Hydro-Electric Board, the province of Manitoba and the government of Canada on December 16, 1977.

This legislation was a result of lobbying by Fresh Energy and Minnesotans for Energy Efficient Economy (ME3). ME3 initiated the Just Energy campaign in December 2001, which focuses on educating consumers about the impacts Manitoba Hydro's large dams are allegedly having on people and the environment.

Fresh Energy claims that Manitoba Hydro is able to sell power to Excel Energy at a low rate because the external environmental and socio-economic costs are not included. This, they claim, hurts Minnesota's own renewable energy development.

Their purpose is to block future sales to Minnesota in order to develop the market for wind energy in that state. They support the development of energy that is locally generated and appear to be using the claims of a Manitoba First Nation to further their interests.

Fresh Energy and ME3 appear to have a strong presence in Minnesota, and will continue to attempt to negatively influence purchases of Manitoba hydro-electric power. A lengthy dispute with First Nations over the selection of a route for the Bipole III Line will likely add 'fuel to the fire' regarding opposition to the purchase of power from Manitoba.

6.0 Scope of Interest of Environmental Organizations

This section considers a number of factors involving local, national and international environmental organisations. Like other aspects of the routing options (other than technical considerations) there is uncertainty.

There is no credible **Theory of Action** to guide decision-making in this area. While having unanimous support from First Nations along either routing option is clearly beneficial, it is far from certain that any course of action will produce a predictable overall result and change the magnitude and nature of potential opposition by environmental organizations to either an eastern or western route. A firm decision and pushing ahead without consensus could produce a range of results. For example:

- It could be found, after the fact, that some of the concerns and issues raised by either side prove to be bogeymen.
- Alternatively, environmental groups could coalesce around this issue and make it into an international *cause celebre*, damaging the reputation of the Crown, causing a local political crisis and threatening energy exports to the United States.
- Since the outcome is unpredictable, it argues for taking extraordinary measures for achieving consensus before moving ahead. At some point, however, the economic price of avoiding conflict might simply be too great and the Corporation and the Province will have to risk a conflict situation. There are significant economic concerns that have to be balanced against uncertain outcomes in the environmental arena.

6.1 Nature of the Debate

The debate can be characterized as being one of technical/economic/public good arguments vs. less quantifiable environmental concepts, concerns and a different public good, as well as impacts on Aboriginal culture and interests. To some First Nation and environmental groups, the transmission line is a symbol of environmental destruction and specifically the loss of something unusual and of great value. While the arguments may not always be completely logical and the "facts" put forward may be inaccurate at times, the opposition is very real and should not be underestimated.

To a certain extent the debate has been sloganized: "Save the Boreal Forest"/protect "Pristine Wilderness Values". These slogans make a strong appeal to emotion, but what does saving the boreal forest mean in practical terms?

There are perceptions that we need at least one place preserved from development – protection for our one last wild place. These are very deeply held opinions. Increasingly, the scientific community is weighing in on the debate, raising ecological integrity as a more measurable and definable objective. More data is becoming available about the boreal forest in terms of its role as the "lungs of the planet" and as a carbon sink, as well as the 'free' services it provides, such as purifying water sources. Nonetheless, the debate will be one of values – caribou vs. economics. This argument cannot be won on the basis of duelling environmental impact reports. Hints from both sides of the debate that disaster will happen if their side does not prevail do not assist in arriving at the best decision. The

debate has to be engaged at the community as well as the provincial and international level.

To date, the debate has largely focused on the east side, and the implications of a west side routing have not been fully discussed. There is much that is unknown about this potential routing, including potential opposition environmental groups.

6.2 Commitments

Commitments have been made to the public, First Nations, local environmental groups and international environmental groups that there will not be a transmission line on the east side of Lake Winnipeg. Specifically, a minister of the provincial government apparently had a meeting with the Natural Resources Defense Council (NRDC) and made a commitment to the NRDC that there would not be a transmission line down the east side of Lake Winnipeg.

The context of these commitments is important, i.e. they were made in the context of apparent unanimous opposition to the line by First Nation communities on the east side. If that position has now changed there may be good reason to re-evaluate government decision-making (e.g. a letter to the editor published in the *Winnipeg Free Press* on July 28, 2007 by the Chief of Berens River indicated a desire for an east side routing).

The discussion has been complicated by public statements committing the government to protection for the east side, a debate in the media, and advocacy for creation of a UNESCO World Heritage Site. The proposed Pimachiowin Aki World Heritage Site has the potential of being used by opponents of the transmission line as a powerful weapon in the debate, regardless of whether actual boundaries of the site would exclude an HVdc transmission line next to the existing 66 kV line. As a proponent of the site, the Province is required to demonstrate stewardship and to offer protection for the natural and cultural characteristics of the site, which the government has promoted as being of "outstanding value to humanity". An east side routing creates the opportunity to attack the Province's commitment to stewardship with the argument being that the government's actions are contrary to the UNESCO Convention and would endanger the potential for inscription.

6.3 The Risk of Creating a Cause Celebre

An east side transmission corridor could develop into a "cause celebre". How would that happen and what is the significance? Does it matter? How can the risks of these events be balanced against the direct cost of the longer and technically inferior west side Bipole III Line?

If an east side route location develops into a confrontation – First Nations and environmental groups vs. Hydro – it will draw in national and likely international environmental groups. This creates a risk to the Province's reputation. Decision-making and licensing processes will become more onerous and lengthy. A cause celebre also potentially creates an economic risk related to export energy markets.

The risk of creating a cause celebre derives in part from the fact that the east side has achieved national and international recognition. This was reinforced by the UNESCO

proposal by way of which Parks Canada has recognized the east side as a place of "outstanding universal value." Being added to Canada's Tentative List for World Heritage Sites is a "prestigious place to be."

The east side has a prominent place on the web sites of major national and international environmental associations and a prestigious environment award was recently made to Sophia Rabliauskas of Poplar River First Nation:

> "Working on behalf of the Poplar River First Nation, Rabliauskas succeeded in securing interim protection for the boreal forest of Manitoba, effectively preventing destructive logging and hydro-power development while the government and international agencies deliberate on the future of the region. The Goldman Prize **amplifies the voices of these grassroots leaders** [emphasis added] and provides them with: i**nternational recognition** [emphasis added] that enhances their credibility and **worldwide visibility** [emphasis added] for the issues they champion."[2]

NRDC has also identified the east side of Manitoba through its BioGems campaign, which prominently features the east side boreal forest.

> "The Natural Resources Defense Council (NRDC) is an environmental action group supported by 1.2 million members and activists. Our mission is to safeguard the earth: its people, its plants and animals, and the natural systems on which all life depends. By fighting in court, working through Congress, and mobilizing millions of people worldwide, NRDC has stopped powerful corporate interests from destroying our clean air and water, public lands and wildlife habitats."[3]

The NRDC has aligned itself with high profile individuals that attract media attention. In the case of the boreal forest, Robert F. Kennedy Jr. has taken an active role in protecting the boreal forests of eastern Manitoba.

The NRDC has been cited in the media as one of the United States most powerful and effective environmental groups. The NRDC web site offers specific commentary on the Manitoba commitment to protect the east side:

> "Until recently the wildest stretch of the forest along the border of Manitoba and Ontario was in danger of losing these nesting grounds to new hydropower development. *But in May 2005, the Manitoba government announced that it will seek alternative routes for proposed hydro transmission lines that would have cut through the forest* [emphasis added]."

If the east side became a high profile issue, it is expected that other international groups will also participate.

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[2] Web Site (www.goldmanprize.org): The Goldman Environmental Prize

[3] NRDC Web Site: www.savebiogems.org

How would Manitobans react to this? While many Manitobans wish to be perceived as environmentally sensitive, there may be a public backlash against international interveners, particularly Americans, weighing in on what is seen as a local issue.

Could a cause celebre involve more than public tension? Is there a risk to energy exports to the United States? Potentially this could come by way of legislation in U.S. markets where the wind energy and/or coal lobby coupled with environmental groups could manage to successfully block energy imports from Manitoba. The U.S. has a reputation for protective trade actions and recent legislation in Minnesota already obliges the state to consider the environmental effects of electrical generation in Manitoba. The notion of impaired energy exports is highly speculative but is part of the overall consideration in balancing a much more expensive western route against a potential confrontation on the east side.

The potential cause celebre is strengthened by the collaboration of environmental groups with First Nations, and a linking of their joint concerns. Conversely, if all or some First Nations begin to support the Bipole III Line, environmental groups could no longer point to a lack of First Nations support for the east side route as part of their opposition, and it could potentially place them in conflict with First Nations communities, with whom they have often previously partnered.

6.4 Environmental Organizations

A detailed but not exhaustive list of environmental organizations that may have an interest in participating in the debate about routing Bipole III can be found in Appendix II. It is drawn from interveners in the Wuskwatim licensing process and organizations that have identified interest in the boreal forest and/or specifically the east side on their websites. Since the debate to date has focused on the east side, it is not known which, if any, local groups may oppose a west side routing.

6.4.1 Local Environmental Groups

Local environmental groups will actively participate in the licensing process of major projects such as Bipole III Line. They are familiar with the Manitoba environment and can provide useful input by identifying environmental impacts that may have been underestimated or overlooked and suggesting mitigation measures.

Local environmental organizations are generally small and under funded. As such, they have limited ability to influence public policy. Their primary strength is their strong connection to national and international organizations, and their ability to draw these organizations into the debate.

6.4.2 National Environmental Groups

National environmental organizations are much larger than local groups and have substantially more funding. Thus, they have some ability to retain experts and to proactively place advertisements outlining their position in the media.

6.4.3 International Environmental Groups

International environmental organizations tend to be very large, well financed and influential. They operate by stopping projects they consider destructive to the environment. Local and national environmental organizations rely extensively on the media to carry the issue into the public forum as a matter of public interest. The defining distinction between these organization and international organizations is the financial ability of the international organizations to pay for media messaging, to lobby and to litigate. With the resources and experience to involve the courts in a meaningful way, international organizations do not need to rely on political pressure generated by free media coverage to force favourable decisions.

The following table compares local, national and international environmental organizations and outlines their relative strengths.

TABLE 1: LOCAL, NATIONAL, INTERNATIONAL ENVIRONMENTAL ORGANIZATIONS

	Local	**National**	**International**
Structure	Volunteer Small or informal memberships	Local chapters National membership/ less than 25 000 Some paid staff but mostly volunteer at the chapter level Focus on programs	High paid technical staff including in-house legal counsel Well organised fund raising structure Membership ^ 500 000
Financial Resources	none to modest	< $5 M annual budget	> $50 M annual budget
Capabilities	Local newspaper articles/ letter writing Contacts to national and international environmental organizations Present at environmental hearings	Media stories Organize local demonstrations	Litigation High level lobbying Paid media messaging Media savvy with extensive media contacts National member and public mobilization Celebrity spokesperson
Potential Impact	Raise local concern about government/ Hydro environmental policies	National attention Impact guidelines for the environmental licensing process	Legal injunctions Adverse legal judgments International trade threats/ action

The Way Forward

Elements of a go-forward strategy:

- A connection has to be made between the proposed transmission line and the public good. Without public support a decision will never be made for either corridor.
    - This report assumes that a new bipole is essential to improving the reliability of the integrated transmission system and that the public is at significant risk from energy outages due to potential failure of the existing HVdc lines. Contradictory messages in the public forum include the notions of new generation "merchant plants" and economic opportunities associated with the "Manitoba Advantage". Clarity is required as to the rationale for this project.
- An east side route requires near unanimous First Nation approval. There is little public will to act contrary to firm First Nation opposition.
    - Testing First Nation reaction to renewed discussions on an east side corridor will require that tacit approval of the province. This is a sensitive area that will require the province to acknowledge that it is prepared to re-evaluate its position on an east side route on the basis of new information.
- There is an opportunity to turn this project from one where there is reluctant approval to proceed with any corridor to pride in having developed a "best in class" facility.
    - Manitoba Hydro has become arguably a leader in innovation when it comes to community relations and environmental commitments. Rather than proceeding on the basis that a new HVdc line is something really awful that has to be done in spite of effects, the project should be presented as an opportunity to highlight Manitoba skills and commitment to environmental issues.
    - There is a win-win solution that needs to be explored. This holds true for either an east or west side corridor.
    - The focus on innovation, commitment to minimizing biophysical and socio-economic impacts and enhancing aboriginal culture will not likely win over people with deeply held environmental convictions but it will take energy out of a "stop the line" campaign.
- The way forward, for either corridor, must include a strategy to protect the cultural identity of First Nations as well as offering economic development opportunities for them. It's got to be both and cannot be simply a financial pay-off.
    - Protection of culture should be addressed firstly;

- The notion of economic opportunities should come second. It is as complex, however, as protecting and enhancing aboriginal culture:
  - There are few direct community benefits available in either the construction or operation of the line
  - There are rising expectations about the magnitude of cash benefits that will be available through funding arrangements that might come with the line. These expectations will be difficult to meet.

- In either the eastern case or the western case the province should be directly involved in corridor selection. There are provincial interests and responsibilities that are beyond Hydro's mandate.

Appendix I

Terms of Reference
Bipole III Transmission Route Study

Review of Socio-Economic and Environmental Considerations and Potential Roles and Impacts of Environmental Organizations

Manitoba Hydro is in need of a major north-south transmission line in order to enhance the reliability of the existing power system to deliver power generated in northern Manitoba to the southern load centres.

Numerous technical reviews have been undertaken of routing options, including East of Lake Winnipeg, the Interlake and West of Lake Manitoba. These studies have determined technical benefits associated with an East Side routing.

Manitoba Hydro is interested in obtaining additional information with respect to the environmental and community considerations of different routing options. As well as regarding the potential roles and impacts of environmental organizations that play an active role vis a vis hydroelectric transmission in Manitoba.

Accordingly, Manitoba Hydro are interested in contracting consulting services to evaluate:

- The environmental landscape of alternative routes, including an assessment of environmental significance;
- Considerations associated with different routing options, including community preferences, potential community partnerships;
- Considerations associated with the impact of a transmission line on other initiatives, in the area, in particular, the potential UNESCO World Heritage Site designation and related community partnerships;
- The scope of interest of environmental organizations in Manitoba transmission routing, including membership, local interest and support and potential influence;
- Relative risks from an environmental perspective

Appendix II

The following is a list of local, national and international organizations that may be expected to participate in a Bipole III Line licensing process.

Local Organizations

Boreal Forest Network
The Boreal Forest Network identifies itself as an environmental justice organization of environmentalists, indigenous peoples and scientists concerned with the protection and sustainable use of the boreal forest, one of the three great forest systems of the world. Their website states that the boreal is also home to almost a million indigenous people, many of whom retain a strong connection with their cultures and traditions and value their traditional economies.

The Boreal Forest Network is strongly opposed to the eastern route and has published papers expressing a preference for the western route. It is expected that they will be very active in any licensing process for Bipole III Line.

Centre for Indigenous Environmental Resources (CIER)
CIER is a national, First Nation-directed environmental non-profit organization with charitable status and is based in Winnipeg, Manitoba. CIER was founded in 1994 by a small group of First Nation leaders from across Canada who recognized the need for Aboriginal peoples to have the capacity to solve environmental problems affecting their lands and resources. CIER received federal non-profit corporate status in 1995 and became a registered charity in 2000. CIER develops and implements sustainable solutions to proactively address environmental issues affecting First Nations lands and resources.

CIER appeared at the Wuskwatim hearings and can be expected to participate in a Bipole III Line licensing process.

Consumers Association of Canada – MB Chapter/Manitoba Society of Seniors
The Consumers' Association of Canada describes itself as an independent, non-profit, volunteer organization dedicated to educating and informing consumers and to representing the best interests of consumers to all levels of government and to all sectors of society. The Manitoba Society of Seniors represents Manitobans 50 plus by promoting their needs and concerns.

These two organizations are usually represented by common legal counsel and usually provide a common presentation at hearings such as the Wuskwatim licensing process and rate applications before the Public Utilities Board. They focus on both environmental and economic issues.

Manitoba Industrial Power Users Group (MIPUG)
MIPUG represents the large industrial power users in the Province. They have the financial capability to hire experts in various areas of expertise as deemed advisable. While not an environmental organization, MIPUG appeared at the Wuskwatim hearing and can be expected to appear at a Bipole III Line hearing focusing on security of supply and economics. The greater cost of a western route will be of concern to them.

Manitoba Wildlands
Manitoba Wildlands identifies itself as a Manitoba based non-profit environmental organization that continues the protected areas work of WWF Canada and Nature Canada in the province. According to its website, it works with Manitoba communities, industry sectors and other environmental organizations. Fulfillment of public policy to establish protected areas, which represent our lands and waters, is the focus of Manitoba Wildlands. The organization also provides international, national and regional information about climate change, water, energy, species, biodiversity, and forests.

Manitoba Wildlands participated in the Wuskwatim hearing process and can be expected to be participate at future hearings regarding Manitoba Hydro facilities. They currently are working for and providing advice to the Poplar River First Nation.

Provincial Council of Women of Manitoba
The mission of the Provincial Council of Women of Manitoba is to empower women to improve the quality of life for themselves, their families and society. PCWM acts as an advocacy body at the provincial level on behalf of various women's groups and organizations concerning a wide range of issues relating generally to the improvement of social conditions for the community and family.

It is possible that the PCWM could appear at a hearing regarding Bipole III Line approval focusing primarily on social issues.

Resource Conservation Manitoba (RCM)
RCM is a non-profit, non-governmental organization directed by an elected community board. RCM's mission is to promote ecological sustainability through environmental education and to develop alternatives to current practices. Their programs focus on sustainable transportation, waste reduction, climate change, and sustainable living. In addition, RCM's elected community board makes formal presentations on issues such as utility rates, extended producer responsibility, ecological fiscal reform, and urban planning.

RCM promotes applied, ecological sustainability through environmental education and the development of alternatives to current unsustainable practices.

RCM did not participate in the Wuskwatim hearings and may or may not become involved in a Bipole III licencing process.

Time To Respect Earth's Ecosystems (TREE)
TREE describes itself as committed to the advancement of a more sustainable society in which the planet's natural endowments of living and nonliving systems and resources are valued, respected and conserved. Recognizing that this natural legacy is finite and subject to degradation and depletion, TREE promotes eco-efficiency, improving the ratio of social benefits to environmental harms as essential pillars of a sustainable society.

TREE participated in the Wuskwatim hearing and can be expected to participate in future hearings focusing primarily on issues of sustainability, particularly energy conservation, alternatives to northern generation, and the socio-economic consequences of alternatives.

National Organizations

Canadian Boreal Initiative
The Canadian Boreal Initiative (CBI) describes itself as "working with a wide range of conservation organizations, First Nations, industry and other interested parties to link science, policy and conservation activities in Canada's boreal forest." Located in Ottawa, CBI also partners with non-governmental organizations, First Nations and others across the country in on-the-ground boreal conservation work. The Canadian Boreal Initiative is supported financially by the Pew Charitable Trusts.

While CBI is unlikely to participate directly in the Bipole III licensing process, they will be involved through their partners doing on-the-ground conservation work.

Canadian Parks and Wilderness Society (CPAWS)
CPAWS is a national organization with 13 chapters across the country, including a Manitoba chapter. It has a membership of 20,000 and a staff of 50 with an annual budget of almost $5,000,000. One of the organization's primary objectives is protection of the boreal forest. As a signatory to the Boreal Forest Conservation Framework released by the Canadian Boreal Initiative, the goal of CPAWS is to protect at least 50% of Canada's boreal forest in areas off-limits to development.

CPAWS has issued a public warning regarding the proposed transmission of power between Manitoba and Ontario, which would bisect Ontario's northern boreal region. CPAWS urges governments to proceed with caution subject to the following conditions:

- The project must demonstrate that it is better than alternatives
- Routes for the project should proceed through already fragmented landscapes before intact areas are disturbed
- If fragmenting the intact landscape is necessary, then it should proceed only after conservation-based land use planning determines how to protect the region's ecological integrity
- Carbon implications must be fully accounted for
- Aboriginal peoples have constitutionally protected rights that require governments to fully consult and accommodate these rights

CPAWS holds the position that for hydro-electric facilities to be truly "green," they must be located close to the end user to eliminate the impacts of long transmission lines.

Given their focus on the boreal forest at both the national and Manitoba chapter level, CPAWS is likely to choose to participate in the Bipole III Line licensing process.

David Suzuki Foundation

The David Suzuki Foundation is a large environmental foundation funded largely by individual donations and with substantial media presence and experience. Global conservation is one of the Foundation's primary objectives. That prominently includes protecting the boreal forest. They could well participate in the Bipole III Line licensing process.

Nature Canada (formerly Canadian Nature Federation)

Nature Canada is a member-based, non-profit conservation organization. Their network includes 40,000 supporters and more than 350 naturalist organizations across Canada.

Their mission is to protect nature, its diversity, and the processes that sustain it. The focus of Nature Canada is on effecting change on issues of national significance, including bird conservation, wilderness protection, endangered species and national parks.

Nature Canada may well participate in the Bipole III Line licensing process, as it would involve routing through the boreal forest, the nesting grounds of many species of migratory birds.

Sierra Club of Canada

The mission of the Sierra Club of Canada is to develop a diverse, well-trained grassroots network working to protect the integrity of our global ecosystems. The Sierra Club of Canada's mission focuses on five overriding threats:

- loss of animal and plant species;
- deterioration of the planet's oceans and atmosphere;
- the ever-growing presence of toxic chemicals in all living things;
- destruction of our remaining wilderness; and
- spiralling population growth and over consumption.

While not participating in the Wuskwatim process, given their dedication to maintaining the ecological integrity of the remaining wilderness, the Sierra Club could choose to participate in the Bipole III licencing process.

International Organizations

Natural Resources Defense Council

NRDC is a large, vocal and influential organization with 1.2 million members and has partnered previously with Canadian and Manitoban environmental organizations. Their

mission is to safeguard the earth – its people, plants and animals – and the natural systems on which all life depends. The NRDC often aligns itself with high profile individuals that attract media attention. In the case of the boreal forest, Robert F. Kennedy Jr. has taken an active role in protecting the forest of eastern Manitoba.

The New York Times and The Wall Street Journal, among others, have identified NRDC as one of America's most powerful and effective environmental groups. By fighting in court, working through Government, and mobilizing millions of people worldwide, NRDC has stopped powerful corporate interests from implementing projects that the NRDC believed threatened air and water quality, public lands and wildlife habitats.

The NRDC BioGems campaign [which prominently includes the east side boreal forest] empowers citizens to take effective online action in defence of our planet's most endangered wild places"[4]

The NRDC website offers specific commentary on the Manitoba commitment to protect the east side as follows:

> "Until recently the wildest stretch of the forest along the border of Manitoba and Ontario was in danger of losing these nesting grounds to new hydropower development. **But in May 2005, the Manitoba government announced that it will seek alternative routes for proposed hydro transmission lines that would have cut through the forest** [emphasis added]. Yet until the government grants permanent protection to the region, the threat of transmission lines, roads, mining and logging remains. Indeed, Manitoba Hydro's president has said that the recent decision concerning transmission lines does not mean that the company is ruling out development in the region, only that it is looking at other options."

The NRDC is a vocal supporter of the proposed United Nations World Heritage Site and is working with the Poplar River First Nation to assist them in achieving their goals.

NRDC is almost certain to participate in the licensing of Bipole III Line, particularly if an east side route is selected. Given their history and resources available to them that participation could include both intervention at a hearing and legal action in an attempt to prevent or delayconstruction. It is unknown, but possible that they could oppose a west side routing as well.

In addition to NRDC, there may be other American or European organizations that national and local environmental groups could align themselves with, if they feel international intervention would assist them in achieving their objectives.

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[4] NRDC Web Site: www.savebiogems.org